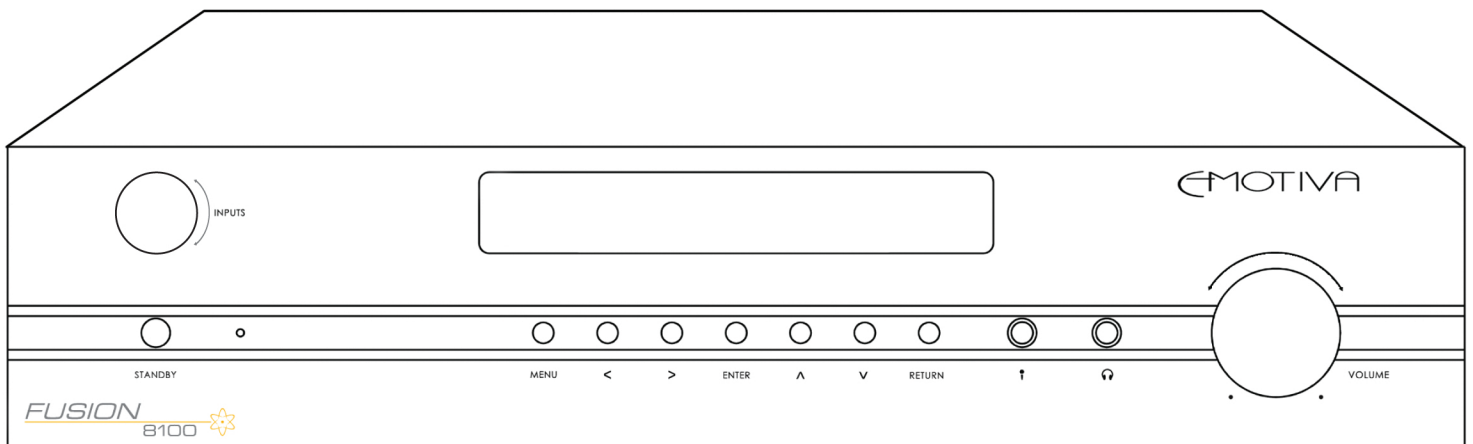


EMOTIVA®

FUSION

8100



7.1 Channel Receiver | User Manual

Important Safety Precautions and Explanation of Symbols



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important installation, operation, and service instructions in this manual.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to the user.

Please read this manual thoroughly before attempting to install, configure, or operate the Emotiva Fusion 8100. After successful installation and configuration of the Fusion 8100, be sure to retain this manual in a safe place for future reference.

Safety is a key component to a long lasting and trouble free installation. Please read and follow all instructions and heed all warnings on the Fusion 8100 and in this manual. The vast majority of the subsequent safety precautions are common sense. If you are not comfortable with the installation of audio/video entertainment equipment, you should seek the services of a qualified installation professional or call us for help.



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE THE FUSION 8100 NEAR WATER OR IN WET LOCATIONS, DO NOT EXPOSE IT TO RAIN OR MOISTURE, DO NOT EXPOSE IT TO DRIPPING OR SPLASHING FROM OTHER SOURCES, AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) ARE PLACED ON IT. DOING SO MAY RESULT IN DAMAGE TO THE FUSION 8100 AND THE RISK OF ELECTRIC SHOCK, WHICH MAY RESULT IN BODILY INJURY OR DEATH.



WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER FROM THE FUSION 8100. THERE ARE NO USER-SERVICEABLE PARTS INSIDE THE FUSION 8100. REFER ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.

Do not install the Fusion 8100 near or above any heat sources such as radiators, heating vents, or other apparatus that produce heat. Do not block any ventilation openings or heat sinks. Avoid installing the Fusion 8100 directly above other heat-producing equipment unless sufficient ventilation or forced-air cooling is provided.

Do not install the Fusion 8100 in locations without proper ventilation. The Fusion 8100 should not be operated on a bed, sofa, rug, or similar surface that may block vents. The Fusion 8100 should not be installed in an enclosed location such as a bookcase, cabinet, or closed equipment rack unless sufficient forced-air ventilation is provided.

Always install your Fusion 8100 according to the manufacturer's instructions and only use attachments or accessories specified by the manufacturer.

Do not install the Fusion 8100 on any stand, shelf, or other piece of furniture that is unable to support its weight. If a cart is used to move the Fusion 8100, use caution to avoid injury from tip-over.

Connect the Fusion 8100 only to power sources of the correct voltage (as shown in this manual and on the Fusion 8100).

Protect power supply cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the Fusion 8100 unit.

Only connect the Fusion 8100 to an electrical outlet or extension cord of appropriate type and rating.

DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades - one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third grounding prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord on the Fusion 8100, only use one of similar type and equal or greater current rating.

The power cable for the Fusion 8100 should be unplugged from the outlet during severe electrical storms, or when unused for a long period of time.

Only replace the fuse(s) in the Fusion 8100 with a fuse(s) of proper value and voltage rating.

The Fusion 8100 should only be cleaned as directed in the manual. Avoid spraying liquids directly onto the Fusion 8100 and NEVER spray liquids into the vents. Care should be taken so that small objects do not fall into the inside of the Fusion 8100.

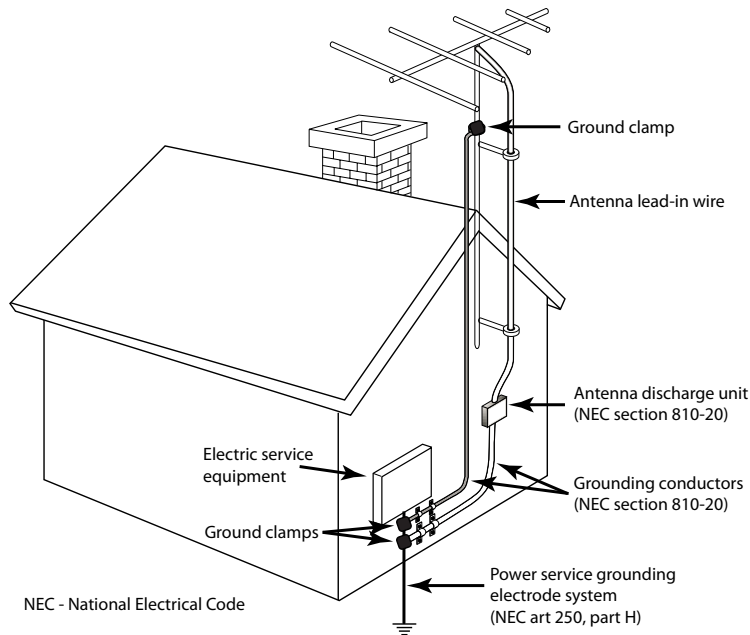
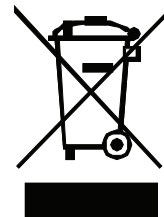
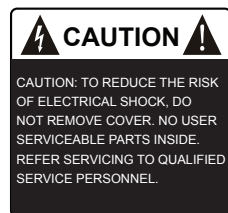


You should seek service for your Fusion 8100 by qualified service personnel if any of the following occur:

1. The power-supply cord or the plug has been damaged.
2. Objects or liquid have fallen or spilled into the vents.
3. The Fusion 8100 has been exposed to rain.
4. The Fusion 8100 exhibits a marked change in performance.
5. The Fusion 8100 has been dropped, or its enclosure or chassis is damaged.

NOTE: TO COMPLETELY DISCONNECT THE FUSION 8100 FROM THE AC POWER MAINS, DISCONNECT THE AC POWER CORD FROM THE AC RECEPTACLE.

NOTE: THE FUSION 8100 AC POWER CORD MUST REMAIN READILY ACCESSIBLE AT ALL TIMES.



FCC Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment to an outlet on a circuit different from that of the receiver.

Consult the manufacturer or an experienced radio/TV technician for help.

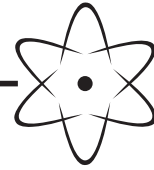
For questions regarding service, please contact:

Emotiva Audio Corporation
Attn: Repair Department
135 Southeast Parkway Court
Franklin, TN 37064

1-877-366-8324
www.emotiva.com

FUSION

8100



7.1 Channel AV Receiver

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Introduction

Thank you for choosing the new Emotiva Fusion 8100 7.1 Channel AV Receiver. The Fusion 8100 leverages cutting edge design and advanced manufacturing methods to pack all the performance and sound quality you would expect to find in separate audiophile components into a revolutionary unit with the convenience, economy, and small form factor of a receiver.

The Fusion 8100 combines fast clean video switching, all the latest surround sound decoding modes, an intuitive menu structure, and seven channels of superb quality class A/B amplification, to give you a full set of advanced features and true audiophile sound quality in a convenient, compact, easy to use, home theater receiver.

The Fusion 8100 has plenty of power to be the foundation of a great sounding home theater system; and, if you ever decide you need more power, the preamp outputs make it easy to extend its capabilities by adding a separate power amplifier.

The Fusion 8100 truly advances the state of the art for A/V receivers - and at a price that won't break your budget. We're sure that you'll enjoy listening to the Fusion 8100 as much as we've enjoyed designing and building it.

The Emotiva Fusion Team

About This Manual

This manual will provide you with all the information you need to install and configure the Fusion 8100 to achieve its optimum potential. The manual also includes a brief summary of the features offered by the Fusion 8100 and descriptions of how the controls work.

You may wish to record serial numbers or other purchase information on the Notes page at the back of this manual.

Features

The Emotiva Fusion 8100 is a reference-caliber home theater receiver with high-performance audio and video processing, seven channels of audiophile quality Class A/B amplification, and a full set of preamp outputs for future expansion. The Fusion 8100 provides plenty of audio and video inputs for audio and video enthusiasts, supports all the current surround sound decoding options, and delivers enough real power to drive most speakers to satisfying levels in a typical small-to-medium-sized home theater or living room. It also provides audio outputs for up to two additional zones, and has a full set of preamp outputs. The Fusion 8100 offers one-button calibration for your room and speakers via the built-in automatic room calibration feature, as well as three banks of fully configurable manual parametric EQ, and a Flat EQ setting for reference.

Some of the more important features of the Fusion 8100 include:

- 65 watts x 7 (into 8 ohms, all channels driven) of audiophile quality class A/B output power; 110 watts x 2 (into 8 ohms, two channels driven).
- 4 HDMI 1.4 inputs and one HDMI 1.4 output with full support for 3D, CEC, and ARC.
- Xpressview™ HDMI switching for fast, accurate input selection.
- Twin Cirrus® 32-bit dual-core fixed-point DSP's for high-definition surround sound.
- Supports Dolby Digital, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Pro Logic IIx, Dolby Pro Logic IIz, DTS, DTS ES, DTS HD, DTS HD Master Audio, DTS Neo:6, S/PDIF, PCM 8 channel (note: some audio formats are only supported via HDMI).
- Fusion Advanced Room Correction System™ (ARCS) automatic room correction (calibrated measurement microphone included).
- Flexible bass management, with selectable 12dB or 24 dB/octave crossover filters.
- 3 banks of powerful parametric equalization for exceptionally flexible manual control (11 bands on each main channel; 3 bands on the sub).
- Front panel input selection via a convenient rotary encoder.
- Separate 7.1 channel pure analog direct input for SACD players or other surround sources.
- Full 7.1 channel preamp outputs for future expansion.
- Surround rear amplifier channels may be re-tasked to bi-amplify your front channel speakers.
- Integrated Bluetooth 3.0 for CD quality audio from mobile devices with apt-X™.
- Separate independently controlled audio outputs for Zone 2 and Zone 3.
- Video-On-Standby allows video viewing even when the Fusion 8100 is in standby mode.
- Last Video Memory allows viewing of one source while listening to another.
- High quality headphone amp for private listening.
- Comprehensive control via full-color on screen display (OSD) over live video (with adjustable transparency).
- All adjustments are made in real time over live video and audio.
- Ergonomic full function custom remote control included.
- Emotiva Fusion three year parts and labor warranty.

You can find more information about the Fusion 8100 on our website at www.emotiva.com.

Unpacking

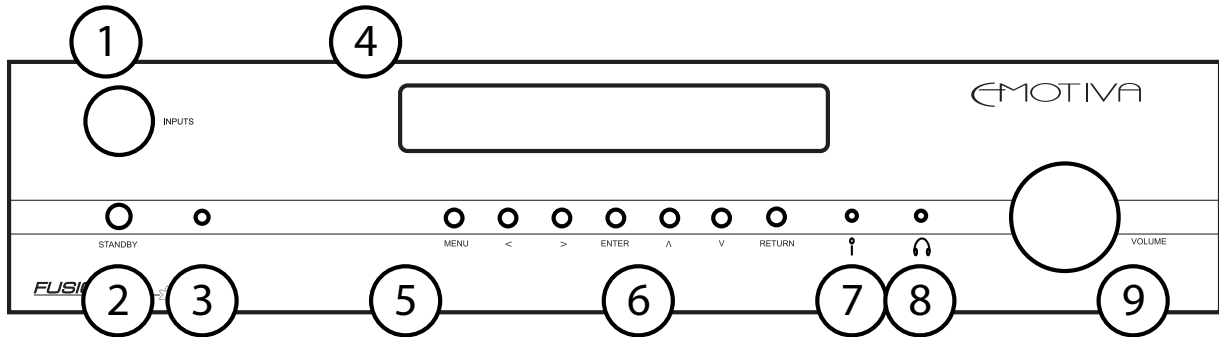
Your Fusion 8100 was carefully packed and should reach you in perfect condition. If you notice any shipping damage or other issues when you unpack it, please contact Emotiva immediately.

Gently remove your Fusion 8100 from the packing carton and remove all wrappings and shipping material.

It is important to save the box and all packing materials in case your power amp ever needs to be moved or shipped back to the factory for service.

We truly value customer feedback and would like to hear from you.

Fusion 8100 Front Panel



1. Input Selector (rotary encoder)

Turn this to quickly select between configured inputs; once the correct input is selected, press it to “lock in” your choice.

Note: *The Input Selector can only select between inputs that are enabled. To access inputs which are not enabled, you must use the Input Menu.*

2. Standby Button

Press this to switch the Fusion 8100 from Standby to On; press it again to return the Fusion 8100 to Standby mode. (The rear panel AC power switch must be On.)

3. Standby LED

This LED is red when the Fusion 8100 is in Standby mode, and blue when the Fusion 8100 is On.

4. Front Panel Display

Large, clear, easy to read VFD status display.

5. Menu Button

Press this button to activate the configuration menu.

6. Left, Right, Enter, Up, Down, and Return Buttons

When the configuration menu is active, these buttons are used to navigate the menu.

When the menu is not active, use the Left and Right buttons to select between inputs.

7. Calibration Microphone Jack

Connect the (included) calibration microphone to this jack when you wish to perform automatic room calibration using the Fusion Advanced Room Correction System. For the most accurate results, use only the included calibration microphone.

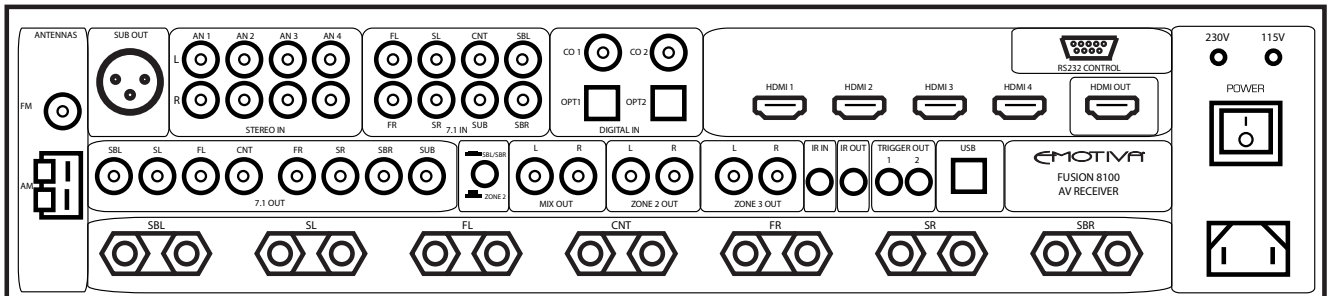
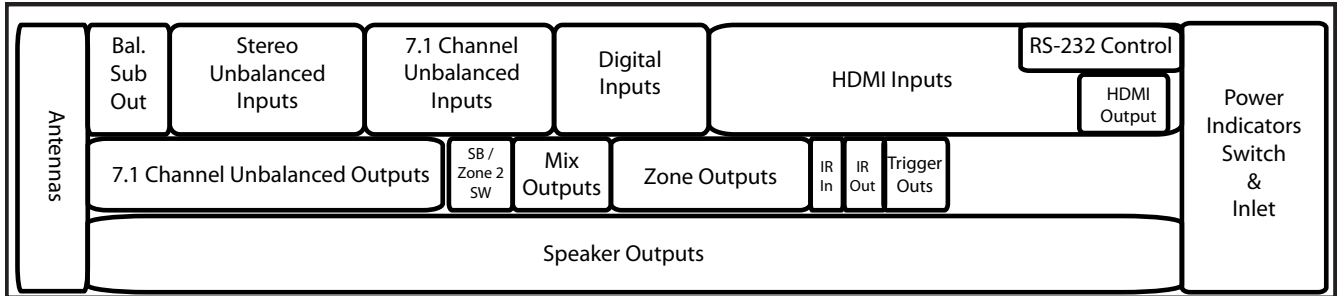
8. Headphone Jack

Connect any standard pair of stereo headphones for high-quality personal listening. When you plug in a pair of headphones, the main volume is automatically muted.

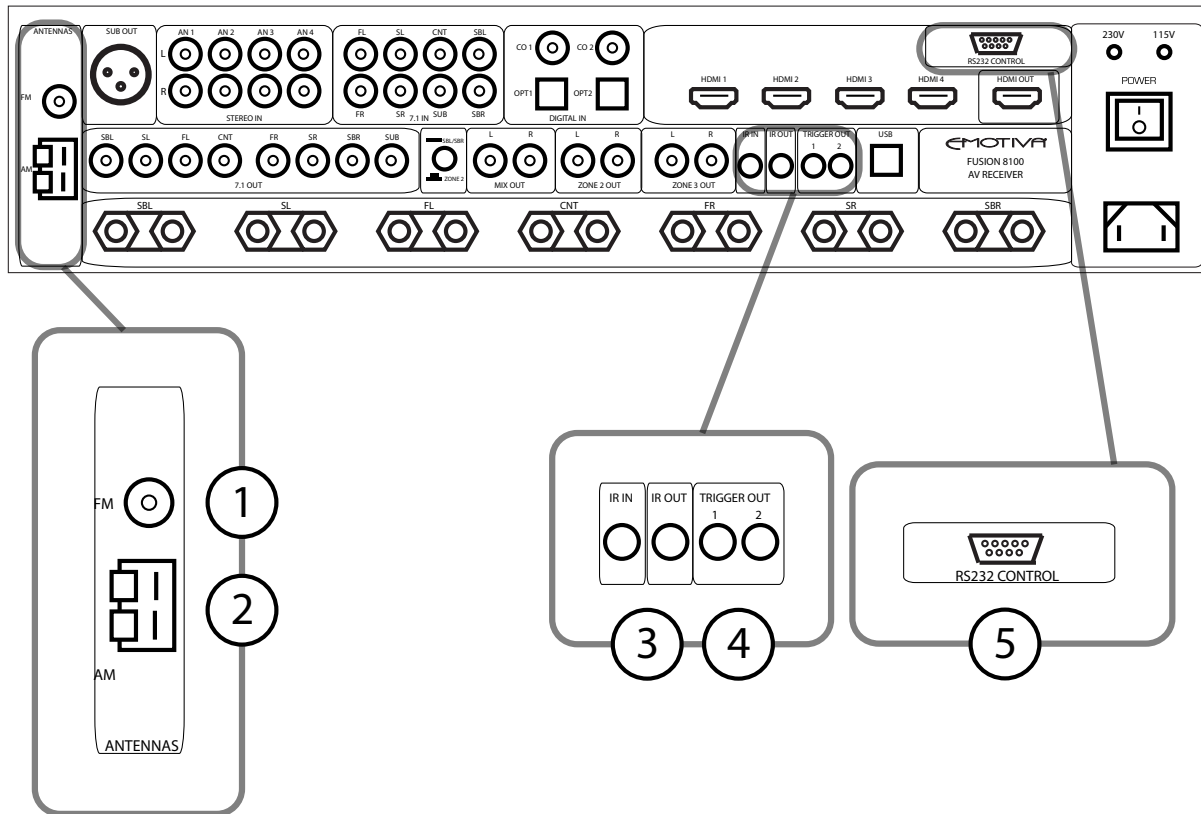
9. Volume Control

The Volume Control on the Fusion 8100 is a rotary encoder that instructs the digitally controlled analog resistor ladder network volume control. (The dot on the knob does not indicate the volume setting.)

Fusion 8100 Rear Panel



Rear Panel - Control and Antenna Connections



1. FM Antenna

Connect a standard FM antenna (included) to these terminals.

2. AM Antenna

Connect a standard AM antenna (included) to these terminals.

3. IR Remote Input and Output

Connect a remote IR detector (eye) to this input. This is especially useful if your Fusion 8100 is located in a cabinet or other area where the front panel IR detector is blocked. Connect a remote IR transmitter ("blaster") to this output to control other equipment.

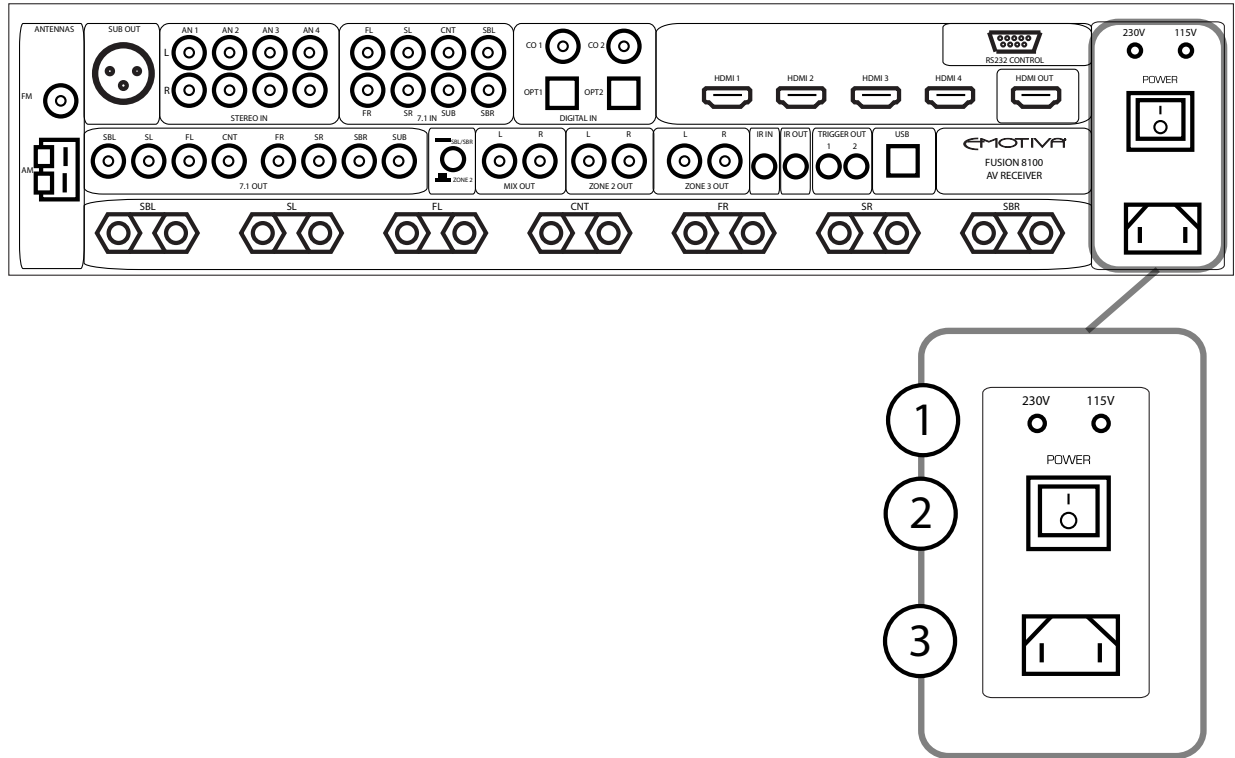
4. Trigger Outputs (2)

Connect each Trigger Output to one piece of trigger-enabled audio equipment. You can then configure the Fusion 8100 to turn on specific trigger-enabled equipment when specific input sources are selected.

5. RS-232 Serial Control

Connect this to the RS-232 serial output of a remote control device.

Rear Panel - Power Connections



1. Input Voltage Indicator

The Fusion 8100 automatically detects the correct AC line voltage. These LEDs indicate which voltage has been detected.

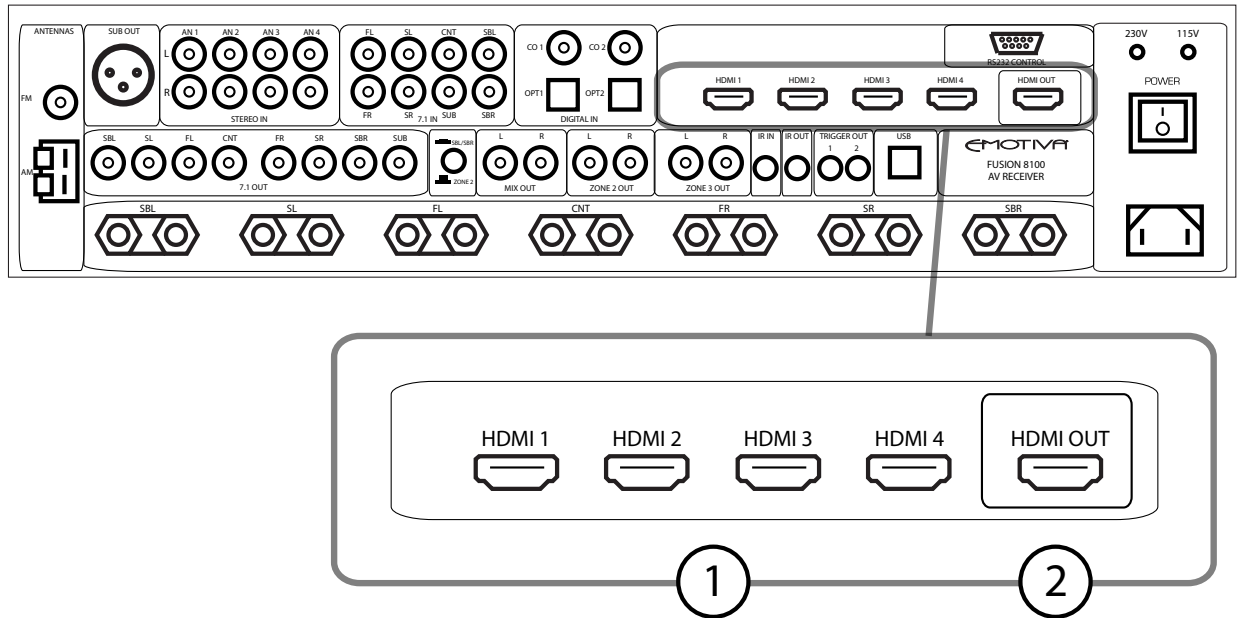
2. Power Switch

Switches the AC main power to the Fusion 8100 On and Off. When this switch is Off, the Fusion 8100 will not respond to trigger signals or manual controls.

3. Standard IEC Power Inlet

The Fusion 8100 can be used with either a two-wire or three-wire standard IEC power cable.

Rear Panel - Video Inputs and Outputs (HDMI)



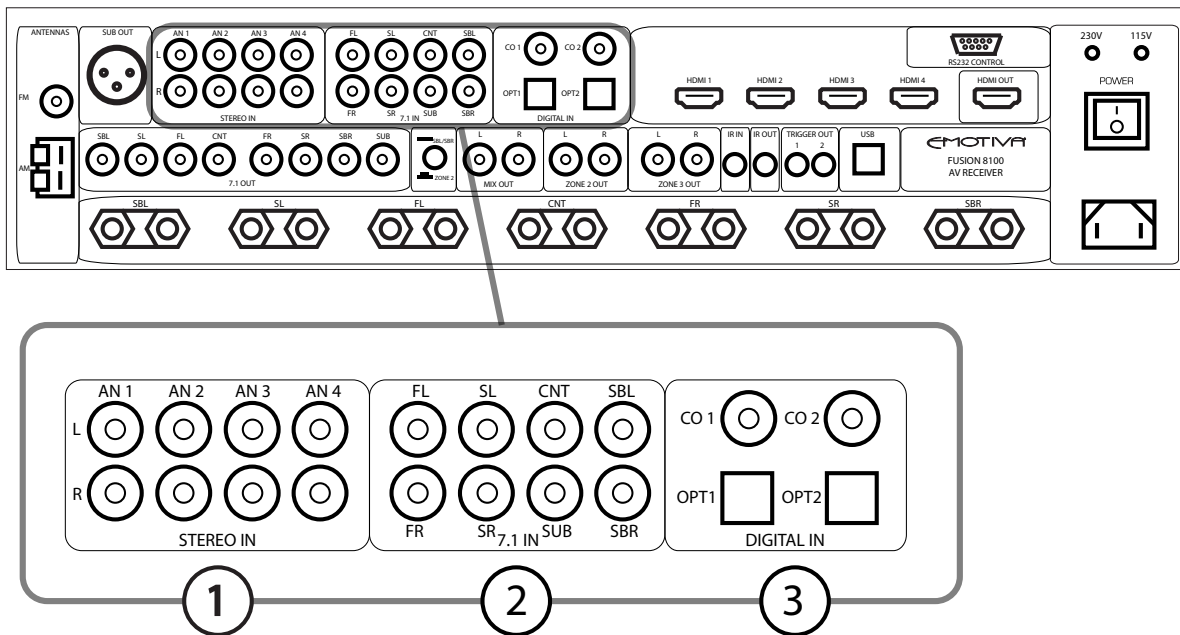
1. HDMI Inputs (4)

Provide four inputs for components that have either HDMI or DVI-D outputs. (An appropriate adapter will be required to connect DVI-D devices, and not all features will be available.) All four HDMI inputs are identical, are HDMI 1.4 compatible, and support all standard formats (including 3D) up to 1080p/24.

2. HDMI Output (1)

The HDMI output is HDMI 1.4 compliant, and is ARC and CEC enabled.

Rear Panel - Audio Inputs (Analog and Digital)



1. Stereo Unbalanced Analog Audio Inputs (4 pairs)

Provide inputs for four unbalanced stereo analog sources.

2. 7.1 Unbalanced Analog Audio Inputs (1 set)

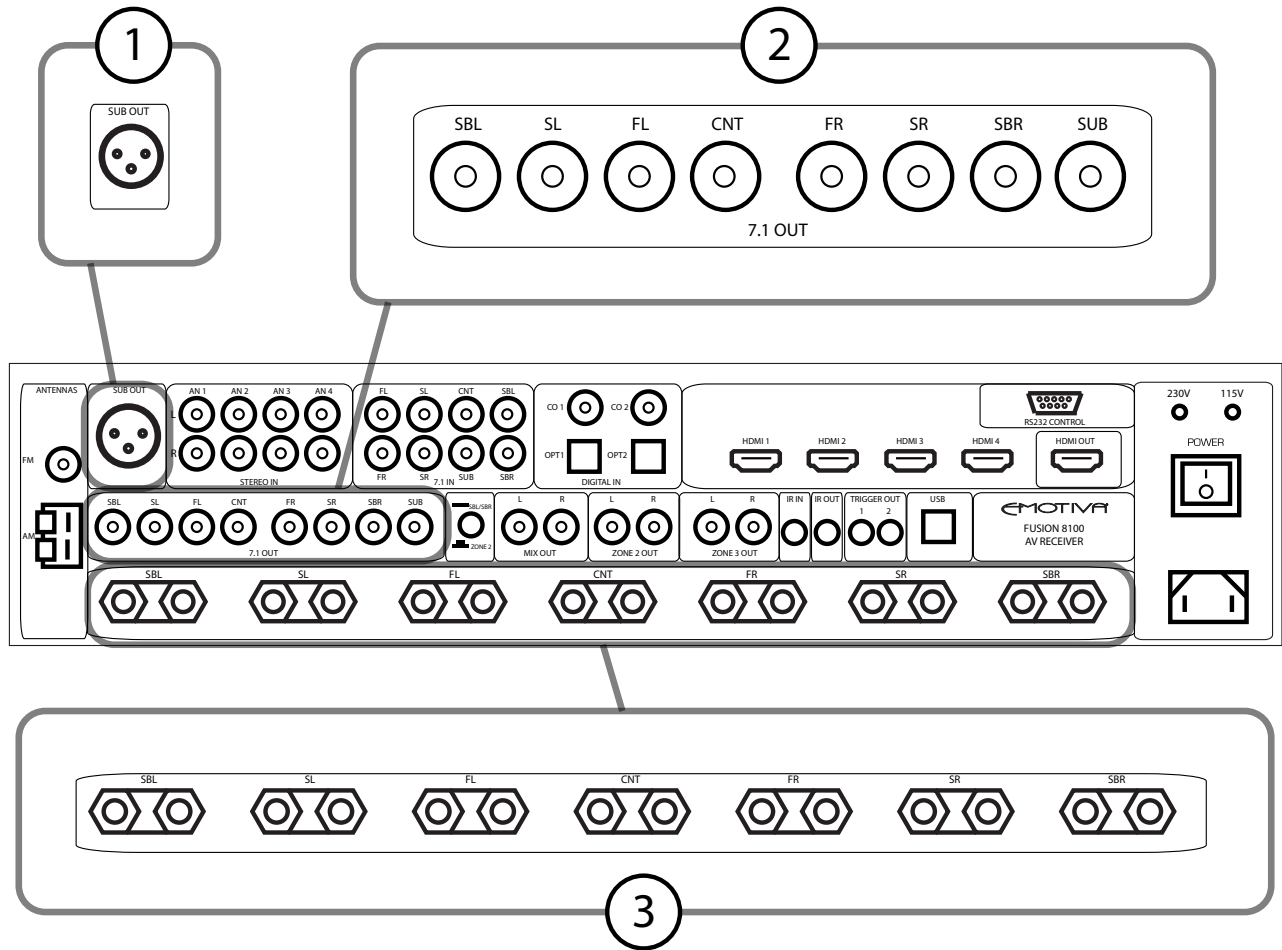
Provides one set of unbalanced 7.1 channel surround audio inputs. The signals received at these inputs bypass all digital processing and are passed directly to the volume control and the preamp outputs. Typically, the analog surround sound outputs of an SACD player or external decoder are connected to these inputs.

3. Digital Audio Inputs

The Fusion 8100 provides four digital audio inputs. CO 1 and CO 2 are for standard Coaxial connectors carrying S/PDIF digital audio; OPT 1 and OPT 2 are for standard Toslink optical cables carrying optical S/PDIF digital audio.

Note: The USB input is only for use in applying firmware updates.

Rear Panel - Main Audio Outputs (Analog)



1. Subwoofer Output (balanced)

Connect this output to the balanced input of a powered subwoofer.

2. 7.1 Channel Preamp Outputs (unbalanced)

Connect these line level outputs to an external power amplifier.

Note: Both the speaker outputs and the preamp outputs on the Fusion 8100 remain active at all times. You may use the preamp outputs (with an external amplifier) to run some channels, while still connecting speakers to the speaker terminals on the Fusion 8100 for other channels (for example, you may connect just a sub to the unbalanced Sub output, or you may connect the power amp that runs your front mains to the preamp outputs on the Fusion 8100, while connecting your surround speakers directly to the speaker outputs on the Fusion 8100).

Note: The preamp outputs on the Fusion 8100 are configured to deliver the same program content to each channel as the speaker outputs. When the SBL/SBR Speaker Function Switch is pressed in, the preamp outputs designated as SBL and SBR will output signals for Surround Back Left and Surround Back Right (or as Front Left and Front Right Height Speakers, or as Front Bi-Amp outputs, depending on how they are configured). When this button is out, the preamp outputs designated as SBL and SBR will output signals for a stereo Zone 2 output. (This button setting overrides any other configuration settings.)

3. Speaker Outputs (7)

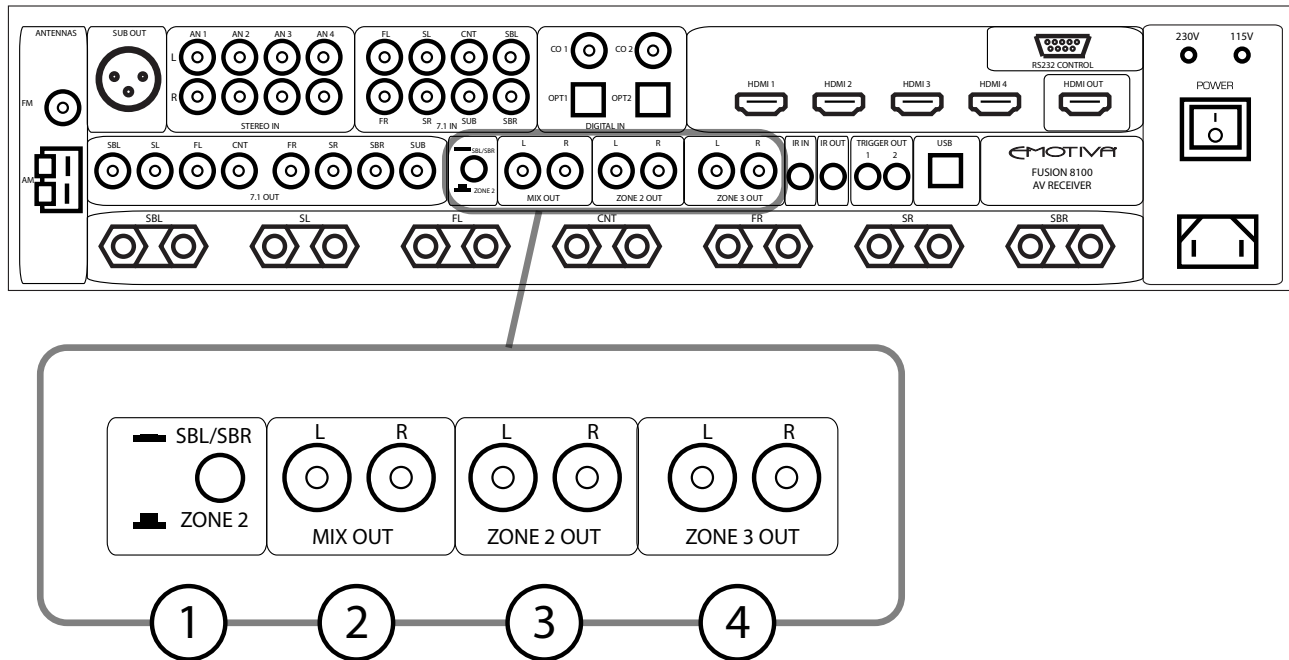
Connect up to seven 4 ohm or 8 ohm speakers to these outputs.

Note: The Fusion 8100 can be configured for either 5.1 or 7.1 surround sound operation. If you configure the Fusion 8100 for 5.1 channel operation, use the FL, FR, CNT, SL, and SR speaker outputs (and NOT the SBL and SBR outputs).

Note: These speaker outputs can also be configured as Front Left and Front Right Height Speakers, or as Bi-Amped outputs for the front speakers.

Note: The SBL and SBR Speaker Outputs may be configured to run as a stereo pair of speakers operated by Zone 2 (see the Zone Audio Outputs section for details).

Rear Panel - Zone and Mix Audio Outputs (Analog)



1. SBL/SBR Speaker Function Switch

When this button is pressed in, the speakers connected to the SBL and SBR speaker terminals will act as Surround Back Left and Surround Back Right speakers (or as Front Left and Front Right Height Speakers, or as Front Bi-Amp outputs, depending on how they are configured). When this button is out, the speakers connected to the SBL and SBR speaker terminals will act as stereo speakers for Zone 2. (This button setting overrides any other configuration settings.)

2. Mix Output

Provides a stereo unbalanced analog output that is the stereo mixdown of the surround sound source currently playing in the main zone. The Mix Output is variable, and is controlled by the Main Zone Volume setting.

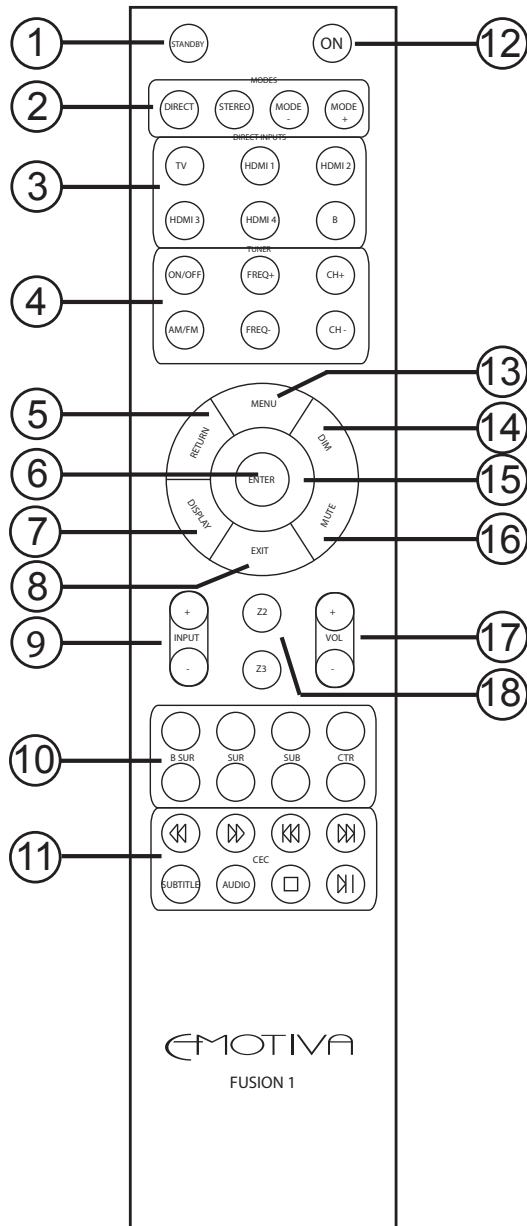
3. Zone 2 and Outputs

Provide stereo unbalanced line level analog audio outputs for Zone 2.

4. Zone 3 and Outputs

Provide stereo unbalanced line level analog audio outputs for Zone 3.

Fusion 8100 Remote Control



1. Standby Button

Press this button when the Fusion 8100 is On to return it to Standby Mode.

2. Mode Buttons

Press the Direct and Stereo Mode Buttons to switch the Fusion 8100 directly into those audio modes. Press the Mode + and Mode - Buttons to step through the valid surround sound decoding modes available for the input that is currently selected. (The modes you can choose from will depend on the signal being received at the input.)

Note: When playing DVD and Blu-Ray discs, your player and the disc itself will probably offer you a choice of several audio modes. After you select one, the Fusion 8100 will determine which type of audio is being supplied by your source component, and will ONLY allow you to choose audio modes that are compatible with that input signal. (For example, if you select "Dolby Digital" when playing a disc, the Fusion 8100 will offer you digital surround options compatible with that mode, but NOT modes which are not compatible with it.)

3. Direct Input Selector Buttons

Press one of the Direct Input Selector Buttons to switch the Fusion 8100 directly to that input. The button with the "B" symbol is used to select a Bluetooth wireless device.

4. Tuner Control Buttons

Press the Tuner On/Off Button to switch directly to the Tuner as your selected input; press it again to return to your previously selected input. Use the AM/FM Button to switch between the AM and FM bands. The Freq+ and Freq- buttons change between different AM or FM stations, and the CH+ and CH- buttons step between any station presets you have created (station presets are created in the Tuner Setup menu).

5. & 8. Return and Exit Navigation Buttons

Used to exit a screen or move up a level in some menus. (Refer to the hints along the bottom of the OSD if you're not sure which button to use in a given situation.)

6., 15. Enter Navigation Button and Navigation Ring

Use the Enter Button, and the Up, Down, Left, and Right controls on the Navigation Ring for navigating the front panel and on-screen menus.

7. Display Button

Press this button to toggle the front panel display between displaying information about which input is selected and displaying the current audio and video modes.

9. Input + and Input - Buttons

Press these buttons to step through the available inputs on your Fusion 8100.

10. Speaker Level Trim Controls

Use these buttons to temporarily adjust the levels of your various surround speakers. The changes you make with these controls will *not* be retained when you turn the Fusion 8100 Off. You can separately adjust the levels of the Center Channel, the Surrounds, the Back Surrounds, and the Subwoofer with these controls.

11. CEC Control Buttons

These buttons are used to send commands from the Fusion 8100 to other CEC-enabled devices which are connected to it. Various CEC-enabled devices will respond to some or all of these command buttons when they are the selected input device. (You may also need to enable this feature on the source device.) Please refer to the instructions that came with each device for details.

12. On Button

Press this button to turn the Fusion 8100 On when it is in Standby.

13. Menu Button

Accesses the front panel menu system and the full-color on-screen display (OSD).

14. Dim Button

Press this button to dim the front panel VFD (vacuum fluorescent display) on the Fusion 8100. The display will get gradually brighter each time you press the button, then, when it reaches the brightest setting, drop back to the dimmest setting (dim but not fully off).

16. Mute Button

Press this button to mute the audio output of the Fusion 8100; press it again to return to the previous Volume level.

17. Volume Buttons

Press these buttons to turn the volume up or down on the Fusion 8100. The current volume setting is displayed on the front panel display.

18. Zone 2 and Zone 3 Buttons

These buttons are used to control the audio being sent to the Zone 2 and Zone 3 outputs. When you press the Zone 2 or Zone 3 button, the remote control will temporarily control that zone.

The display will switch to indicate that you are now controlling the selected zone; you may then press the On or Standby buttons to turn the power for that zone On or Off (this includes the output signal for that zone, and the trigger, if you have assigned one to that zone); you may use the Input + and Input - to step between inputs for that zone; and you may use the Vol + and Vol - buttons to control the audio level for that zone. The remote control will return to normal mode (no longer controlling the selected zone) a few seconds after you finish entering changes.

Note: The Volume and Input Selector Buttons will only accept changes while the zone you are addressing is turned On. (When each zone is Off, the only command that it will recognize is On.)

Zone Operation

SBL/SBR Speaker Function Switch

The Fusion 8100 has seven channels of audiophile quality Class A/B amplification. If the Fusion 8100 is configured as a 7.1 channel receiver, all seven channels are used to power the set of seven surround sound speakers in the main zone. (Press the button IN to select this configuration.)

When the Fusion 8100 is in this configuration, the amplifier channels normally used for the rear surround speakers may be reconfigured to serve as Front Height Speakers, or as duplicates of the Front Main outputs for bi-amping your front main speakers. These options are discussed in the appropriate Menu sections of this manual.

If the Fusion 8100 is configured as a 5.1 channel receiver, the two rear surround channels (Surround Back Left and Surround Back Right) may instead be configured to power a stereo pair of speakers in Zone 2. (Pop the button OUT to select this configuration.)

Note: The Zone 2 stereo analog line level audio output is active regardless of whether the SBL/SBR speakers are assigned to Zone 2.

Analog and Digital Zone Functionality

Both Zone 2 and Zone 3 can be configured to play either the same program material as is selected for the main zone, an independently chosen analog input source, or a radio station sourced from the Fusion 8100's internal tuner.

In addition, Zone 2 on the Fusion 8100 may be configured to play an entirely different digital audio source. If an independent digital audio input is chosen for Zone 2, it must be chosen from amongst Coax 1, Coax 2, Optical 1, or Optical 2 and may only be 2-channel PCM audio (it cannot be surround digital audio). Zone 2 may also be configured to independently play content from the integrated Bluetooth input.

Note: Once the Fusion 8100 is paired to a Bluetooth device, they will remain paired as long as the Fusion 8100 is On, even if you change the selected input (if you switch back to the Bluetooth input you will not have to re-pair the device).

Configuration and Operation

Configuring Inputs

The Fusion 8100 allows any input connector to be assigned to any input source using the Input Setup configuration screen.

Menus

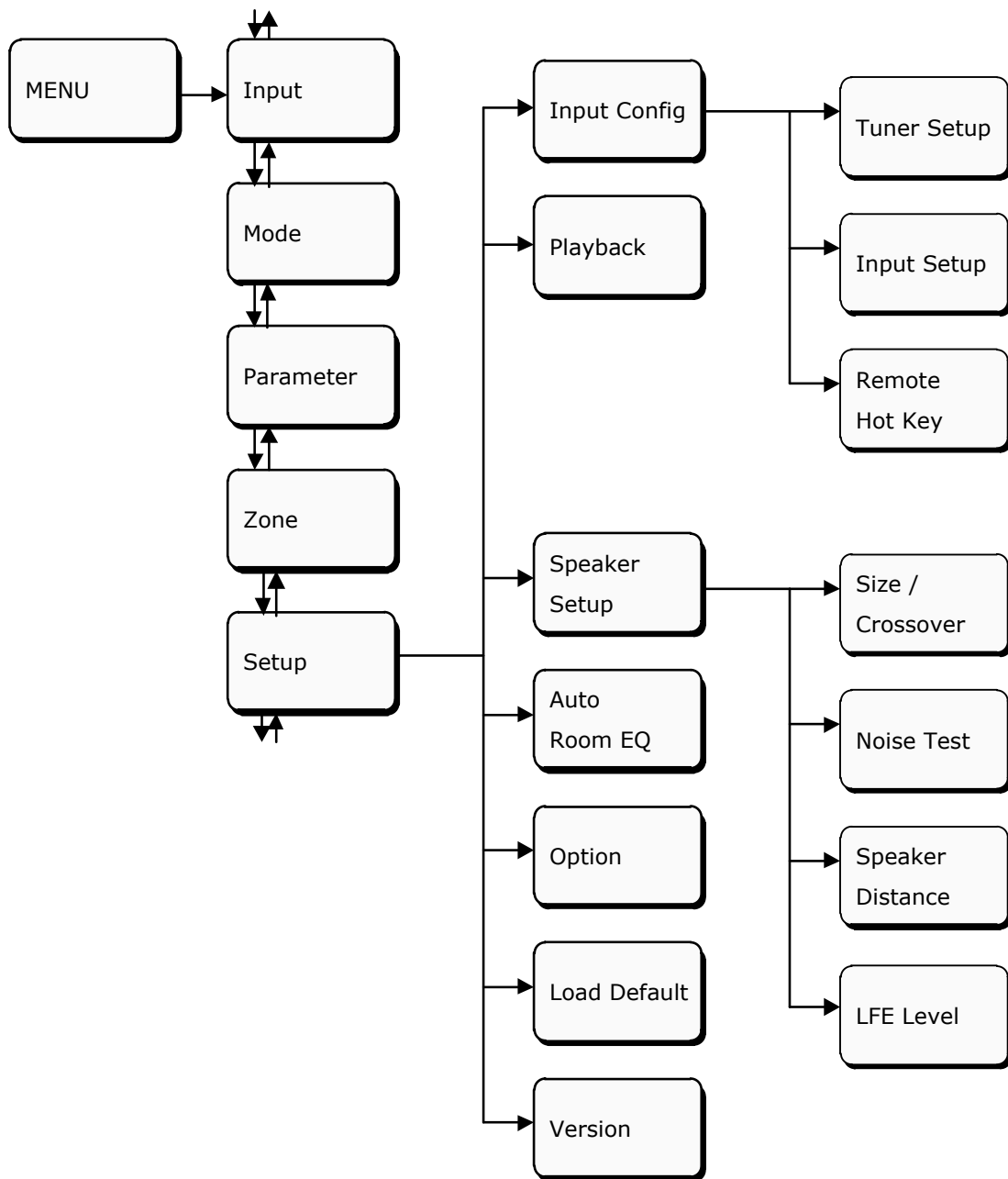
The Fusion 8100 is configured using a set of easy-to-use menus. When you first access the menu system using either the Menu button on the Fusion 8100 front panel or the remote control, the menu will open displaying one of the five main menu screens (Input, Mode, Parameter, Zone, or Setup).

Use the Left and Right navigation buttons (on the front panel or remote control) to move between the different top menu screens. In most cases, pressing either the Down arrow key or Enter will enter the menu page. The hints line at the bottom of the menu screen will always indicate which keys are valid in your current context.

A small “down arrow” icon on the bottom right corner of the menu screen indicates that the menu is longer than a single page. If so, pressing the Down arrow when you are on the bottom item on the menu will move you to the second page of the menu.

Note: Operation of the Fusion 8100 is relatively straightforward, and screen hints are provided to make navigation easier. If you are uncertain which navigation keys are active in your current menu context, refer to the hints line at the bottom of the screen.

Fusion 8100 Menu Tree



Input Menu

Input	Mode	Parameter	Zone	Setup
Tuner		Preset :	01	87.50MHz
TV				
HDMI 1				
HDMI 2				
HDMI 3				
HDMI 4				
CO 1				
CO 2				

On the Input Menu, use the Up and Down navigation keys to choose an input; press Enter to select the input (make it active).

Note: You will NOT be able to access inputs that are NOT Enabled on the Setup / Input Config / Input Setup Submenu from this menu.

Note: If a video input source is already selected, and you then select an audio-only input source, the previously selected video will continue to play along with the new audio.

Mode Menu

Input	Mode	Parameter	Zone	Setup
Direct Stereo All Stereo PLIIx NEO:6 Dolby D Dolby EX Dolby True				

The Mode Menu will allow you to select which mode to use to decode your current input source.

The Fusion 8100 will normally select the “best” mode that is appropriate for the particular program source you have selected. You may manually choose a different decoder mode - but will be limited to those modes that are valid for the input format currently being received (for example, you cannot choose Dolby Digital mode for an analog input signal).

By default, the Fusion 8100 will remember your choice, and will use it as the default choice the next time an input signal of the same format is received. You may change this behavior using the Setup / Playback Menu.

Parameter Menu

Input	Mode	Parameter	Zone	Setup
Left Front				00.0 dB
Center				00.0 dB
Right Front				00.0 dB
Left Surround				00.0 dB
Right Surround				00.0 dB
Left Back / LvH				00.0 dB
Right Back / RvH				00.0 dB
SubWoofers				00.0 dB ☒
Midnight				Off
Center Width				04
Center Distance				00
Headphone Level				00.0 dB

The Parameter Menu allows you to adjust several settings, including the levels of each set of speakers. Changes made to speaker levels on this menu are *temporary* and will not be stored when the Fusion 8100 is turned Off. If you wish to make changes to speaker levels that will be retained between sessions, use the Setup / Speaker Setup / Noise Test Submenu.

Midnight Mode is a special audio mode with reduced dynamic range that is typically enabled to allow listening late at night (the reduced dynamic range allows you to hear quiet dialogue without the loud portions of the program being loud enough to disturb others).

Center Width and Center Distance alter the sound stage, and can be set to your personal preference.

The Headphone Level is an offset which is applied to the main volume setting when you are using headphones.

Changes made to the Center Width, Center Distance, Midnight Mode, and Headphone Level are retained when the Fusion 8100 is turned Off.

Zone Menu

Input	Mode	Parameter	Zone	Setup
Zone 2 Power				Off
Zone 2 Source	FM	87.50MHz	Sync by Main	
Zone 2 Volume				40
Zone 3 Power				Off
Zone 3 Source	FM	87.50MHz	Sync by Main	
Zone 3 Volume				40

The Zone Menu is used to configure the additional audio zones (Zone 2 and Zone 3).

For each zone, the zone may be enabled (On) or disabled (Off), the default Volume level may be set, and the default program source may be selected.

Either extra zone may be configured to play either the source currently selected in the main zone or a different source, but not all choices are valid for both zones.

If either Zone 2 or Zone 3 is configured to Sync to Main, then that zone will play whatever source is selected in the main zone regardless of the source format.

If Zone 2 is configured to play a different source, then the selected source must be either an analog source, the tuner, a two-channel (PCM) digital source, or a Bluetooth source. Surround sound digital sources are not valid in this context.

If Zone 3 is configured to play a different source, then the selected source must be an analog source only.

Note: For the technically inclined; the Fusion 8100 has a second DAC, which can be used to decode a second stereo digital audio source for output on Zone 2.

Note: There is a switch on the rear panel of the Fusion 8100 that allows you to route the Zone 2 audio to the amplifier channels normally used by the Fusion 8100 to deliver audio to the Rear Surround Speakers. If this switch is IN, the SBL and SBR outputs are for Rear Surround Speakers. If the switch is OUT, then the SBL and SBR outputs deliver Zone 2 audio. This is a manual switch, and operates independently of the menu settings.

Setup Menu (main setup menu)

Input	Mode	Parameter	Zone	Setup
Input Config Playback Speaker Setup Auto Room/EQ Option Load Default Version				

The Setup Menu is used to access most of the configuration options on the Fusion 8100.

Setup / Input Config Submenu

Input	Mode	Parameter	Zone	Setup
Input Config		Tuner Setup		
Playback		Input Setup		
Speaker Setup		Remote Hot Key		
Auto Room/EQ		Trigger 1 Mode	Input Set	
Option		Trigger 2 Mode	All Zone PWR	
Load Default				
Version				

The Setup / Input Configuration Submenu is used to access most of the configuration options on the Fusion 8100 related to input selections and configuration of the hot keys on the remote control.

Trigger 1 Mode and Trigger 2 Mode allow you to configure whether each trigger is activated by specific inputs or specific zones. If either is configured to Input Set, then you will be offered the option, when configuring each input, to decide whether that input will activate the trigger.

Setup / Input Config / Tuner Setup Submenu

Input	Mode	Parameter	Zone	Setup
Area		North America		
Band		FM		
Freq		87.50 MHz		
FM Mode		Stereo		
Auto Scan				
Manual Scan Up				
Manual Scan Down				
Memory		1		☒

Trigger 1	ON
Trigger 2	OFF

The Setup / Input Configuration / Tuner Setup Submenu is used to configure the tuner settings and memory presets for the Fusion 8100.

Setup / Input Config / Input Setup Submenu

Input	Mode	Parameter	Zone	Setup
HDMI ARC	Enable		Hot Key:TV	
HDMI 1	Video		Last Video	
HDMI 2	Audio		HDMI ARC	
HDMI 3	Rename		TV	
HDMI 4	LipSync		0 mS	
Coaxial 1	Input Level		00 dB	
Coaxial 2	Trigger 1		ON	
Optical 1	Trigger 2		OFF	☒

The Setup / Input Configuration / Input Setup Submenu is used to configure various parameters for each input on the Fusion 8100, including the audio and video source for each, the input name, an individual audio input trim level for each input, an individual LipSync delay time for each input, and which triggers are activated when the input is chosen.

Note: When the video source for an input is set to one of the HDMI inputs on the Fusion 8100, selecting HDMI as the audio source will automatically select the audio input from the same HDMI input as the video input.

Setup / Input Config / Remote Hot Key Submenu

Input	Mode	Parameter	Zone	Setup
		REMOTE KEY:	Assigned to:	
HOT KEY 1		TV	TV	
HOT KEY 2		HDMI 1	HDMI 1	
HOT KEY 3		HDMI 2	HDMI 2	
HOT KEY 4		HDMI 3	HDMI 3	
HOT KEY 5		HDMI 4	HDMI 4	

The Setup / Input Configuration / Remote Hot Key Submenu is used to configure which input is associated with which hot key on the remote control. The Bluetooth hot key (the one with the “B” symbol) is pre-configured and cannot be changed.

Setup / Playback Submenu

Input	Mode	Parameter	Zone	Setup
ANALOG 2 CH		LAST USED		
PCM		Direct		
MULTI PCM		Stereo		
DOLBY 2/0		PLIIx		
DOLBY D		NEO:6		
DOLBY EX		All Stereo		
DOLBY HD				
DTS 2/0				☒

DTS
DST-ES
DTS-HD

The Setup / Playback Submenu allows you to configure which decoder mode is used by default to decode each different type of source signal. Here you can configure which default mode the Fusion 8100 will use to decode each type of input source when it is received. If you set any of these to Last Used, then the Fusion 8100 will use the last mode you manually selected to decode this particular type of input signal as its default mode for that type.

Setup / Speaker Setup Submenu

Input	Mode	Parameter	Zone	Setup
Input Setup		Size/Crossover		
Playback		Noise Test		
Speaker Setup		Speaker Distance		
Auto Room/EQ		LFE Level		
Option		Front Bi-Wire	OFF	
Load Default				
Version				

The Setup / Speaker Setup Submenu allows you to access the menus on the Fusion 8100 for configuring speaker sizes and crossovers, levels, and distances.

Note: The Fusion Advanced Room Correction System will automatically select optimal values for the size, crossover point, distance, and level of each speaker. These controls are provided for users who either prefer to make their own adjustments using a sound level meter or real time analyzer, or who wish to make “fine tuning” adjustments to the results of the automatic room correction.

Note: If the Back Channel switch on the rear of the Fusion 8100 is OUT, then the SBL and SBR Speaker Outputs will provide audio from Zone 2. If that switch is IN, then the content provided by those speakers will be controlled by the Fusion 8100’s configuration menus.

If the Back Channel switch on the rear of the Fusion 8100 is IN, and Front Bi-Wire is set to On in this menu, then those outputs will duplicate the Front Left and Front Right Main Speaker Outputs and can be used to “vertically bi-amp” your front speakers (this menu setting takes priority over other menu settings, but not the rear panel switch).

If the Back Channel switch on the rear of the Fusion 8100 is IN, and Front Bi-Wire is set to Off in this menu, then the SBL and SBR speakers will be assigned to EITHER Surround Back Left and Surround Back Right, OR FvH (front vertical height) speakers, depending on the setting in the Setup / Speaker Setup / Size & Crossover Submenu.

Setup / Speaker Setup / Size & Crossover Submenu

Input	Mode	Parameter	Zone	Setup
Front L/R	Large			
Center	Small			80 Hz
Surround L/R	Small			80 Hz
Back L/R	Small			80 Hz
FvH	None			
Back/FvH Channel	Parameter			2 CH
SubWoofer	Yes			80 Hz
Enhanced Bass	Parameter			Off ☒

Front Slope	12 dB
Center Slope	12 dB
Surround Slope	12 dB
Back/FvH Slope	12 dB
SubWoofer Slop	24 dB
Load Default	

The Setup / Speaker Setup / Size & Crossover Submenu allows you to configure the speaker size for each set of speakers (Small or Large). For speakers set to Small, you may then configure a crossover point and crossover slope for each set.

If FvH is set to Large or Small, then the SBL and SBR Main Speaker Outputs will be assigned as Front Vertical Height speakers. If FvH is set to None, then the SBL and SBR Main Speaker Outputs will be assigned as Surround Back Left and Surround Back Right Speakers.

Enhanced Bass is a special function intended to enhance the bass capabilities of systems with both Large front speakers and a subwoofer. When enhanced Bass is set to On, bass frequencies from the front channels are also sent to the subwoofer (even if the front speakers are set to Large).

Note: To configure the Fusion 8100 as a “regular 7.1 channel receiver”, the Back Channel switch on the rear panel of the Fusion 8100 should be IN, Front Bi-Wire in the The Setup / Speaker Setup Submenu should be set to OFF, and FvH in the Setup / Speaker Setup / Size & Crossover Submenu should be set to NONE.

Note: If the Back Channel switch on the rear panel of the Fusion 8100 is in the OUT position, then the SBL and SBR amplifier channels will be assigned to Zone 2. If you do NOT configure both Back L/R and FvH Speakers to None in this menu, when the Back Channel switch is in the OUT position, rear surround or front height content will be discarded.

Setup / Speaker Setup / Noise Test Submenu

Input	Mode	Parameter	Zone	Setup
Channel :		Left Front		00.0 dB
		Center		00.0 dB
		Right Front		00.0 dB
		Right Surround		00.0 dB
		Right Back		00.0 dB
		Left Back		00.0 dB
		Left Surround		00.0 dB
		SubWoofer		00.0 dB

The Setup / Speaker Setup / Noise Test Submenu allows you manually adjust (trim) the level for each speaker individually. As each speaker is selected, a test tone (modified pink noise) is played from that speaker.

These controls may be used simply to apply a minor adjustment to one or more speakers “by ear”. You may also use a sound level meter or real time audio analyzer to match the levels of each of your speakers.

Note: Unlike level changes configured in the Parameters Menu, changes made in the Setup / Speaker Setup / Noise Test Submenu remain in effect when the Fusion 8100 is turned Off.

Setup / Speaker Setup / Speaker Distance Submenu

Input	Mode	Parameter	Zone	Setup
Left Front				00.0 ft
Center				00.0 ft
Right Front				00.0 ft
Left Surround				00.0 ft
Right Surround				00.0 ft
Left Back				00.0 ft
Right Back				00.0 ft
SubWoofer				00.0 ft

The Setup / Speaker Setup / Speaker Distance Submenu allows you to manually adjust the distance from each speaker to your chosen seating position.

Note: If your preferred seating area is large, measure the distance from each speaker to the center of the overall listening area. It is usually preferable to arrange your listening room so the speakers are symmetrical (so the distances from the left and right speakers of each set to the listening position are equal).

Note: The Fusion Advanced Room Correction System will fill in these values for you when you run it. Because a variety of factors may adversely affect the results of the automatic calibration measurements, we suggest that you manually correct any distance readings that are obviously incorrect.

Setup / Speaker Setup / LFE Level Submenu

Input	Mode	Parameter	Zone	Setup
EXT 7.1CH				00 dB
MULTI PCM				00 dB
DOLBY D				00 dB
DOLBY HD				00 dB
DTS				00 dB
DTS-HD				00 dB
Load Default				

The Setup / Speaker Setup / LFE Level Submenu allows you manually trim the subwoofer LFE level for each different type of input signal. (You could use this adjustment, for example, to set the subwoofer to play 1 dB quieter for all Dolby Digital movies, and 3 dB quieter for all 7.1 channel analog inputs.) The range of these trim controls is from 0 dB to -10 dB.

Setup / Auto Room EQ Submenu

Input	Mode	Parameter	Zone	Setup
Input Config		Auto Room/EQ		
Playback		Auto EQ		
Speaker Setup		Manual EQ 1		
Auto Room/EQ		Manual EQ 2		
Option		Manual EQ 3		
Load Default		Flat		
Version				

The Setup / Auto Room EQ Submenu is used to initiate the Fusion Advanced Room Correction System, and to select which equalization curve is in effect.

When the Fusion Advanced Room Correction System is run, it will create and save one room equalization curve. In addition, you may manually create up to three additional room equalization curves.

To run the Fusion Advanced Room Correction System, plug the calibrated microphone into the Cal jack on the front panel of the Fusion 8100, select Auto Room/EQ on the menu, and press Enter. Follow the onscreen prompts until the calibration procedure is complete.

Once the Fusion Advanced Room Correction System has been run, you will be able to choose between the results of your automatic room calibration (Auto EQ), up to three manually entered calibration curves (Manual EQ 1, Manual EQ 2, and Manual EQ 3), and Flat (no equalization).

Note: After you run the Fusion Advanced Room Correction System, the EQ settings it generates will be automatically selected as the current default EQ.

You will be able to preview what each EQ choice sounds like by moving the highlight over each and pressing Enter. When you exit this screen by pressing Return, the EQ bank you currently have selected will become the active default EQ bank for the Fusion 8100.

Pressing Enter a second time (when the selector is on the choice that is already active) will bring you to the EQ Setup Submenu for that particular EQ bank (where you will be able to adjust the actual EQ settings for that choice).

Fusion Advanced Room Correction System™

The Fusion Advanced Room Correction System (Fusion ARCS) sends a series of test signals through your speakers, measures the results with the (included) calibrated microphone, and configures the Fusion 8100 to make your system sound its best. Even though the actual operation of the Fusion ARCS is very sophisticated, it is very simple to use and will deliver excellent results without manual tweaking in most situations. (The Fusion ARCS also allows you to fine tune the settings and calibration curves it generates after you run it, and to create your own manual calibration curves. You should also bear in mind that the choices the Fusion ARCS makes may not agree with your musical tastes; if so, then you should always go with what you prefer, and adjust your EQ settings accordingly.)

First, unpack your calibration microphone, unwind the wire, and plug it into the Cal jack on the front panel of the Fusion 8100. (The Fusion 8100 is calibrated for this particular microphone, so don't use a different one.)

Note: The Fusion Advanced Room Correction System will not start if the microphone is not plugged in.

Second, place the microphone in your listening location. While the Fusion ARCS will do its best to optimize the sound for your entire room, the calibration curve and settings it generates will still be the most precise at the position where the microphone was positioned when the calibration was carried out. The microphone should be placed where your head is normally located.

Here are some tips for best results:

- The test will take several minutes, and some of the test tones are annoying, so you might want to take pets or children out of the room (especially if they are noisy).
- Position the microphone close to where your head or ears normally are (on top of the back seat cushion of your favorite chair or couch or, ideally, attached to a stand or tripod).
- The microphone is normally positioned with the point up (and the flat base down).
- Do not place the microphone in a location where it is blocked from a direct line-of-sight to any speaker (like on a chair seat). If the microphone cannot "hear" a particular speaker, the Fusion ARCS will raise the level of that speaker so it presents a balanced sound at the position of the microphone, which will probably result in that speaker being too loud for everyone else.
- Try to avoid flat reflective surfaces. If you must place the microphone on a table or other reflective surface, place a towel or blanket under it to minimize reflections.
- Turn off any air conditioners or other gadgets that make noise, and avoid talking or making noise during the test. Also turn off or remove from the area any telephones that are likely to ring. If you live in a high traffic area, or have noisy neighbors, for best results wait for a quiet time of day to run the Fusion ARCS. (If anything makes noise during the test, it will throw off the results, and you'll have to run Fusion ARCS over again for best results.)

- Avoid moving around the room during the test. It's best if you pick a spot that doesn't block or change the sound field to stand or sit while the test is running. The best place is in the rear of the room towards the center of the wall. Avoid walking near the microphone during the test (even if you don't block any speakers) because reflections from your body will interfere with the accuracy of the results. And, of course, avoid making noise during the test.
- If you rearrange your furniture, move your speakers, or add or remove reflective or sound absorbing wall hangings (like big pictures or tapestries), you should re-run the Fusion ARCS for best results.
- If you purchase new speakers, or change adjustments on your speakers or other equipment (like the level controls on your tweeters or amps), you should run the Fusion ARCS again.
- The Fusion ARCS is powerful, but you will still get the best results if you start out with a good room layout and good speakers. At a minimum, try to position speakers as symmetrically as possible from left to right relative to the listening position. (Left and right speakers of each set should be about the same distance to the sides of the listening position; the center should be as near the center as possible. Perfect symmetry may not be possible in your listening room, but the closer you get, the better your results will be.)
- In general, highly reflective rooms are not optimum in terms of sound quality, and even the Fusion ARCS may not be able to completely correct for the acoustic properties of an overly "live" room.

Third, run the Fusion Advanced Room Correction System.

To run the Fusion ARCS, press the Menu button (to get into the menu system), select Setup, move down to Auto Room EQ, move right to Auto Room EQ, and press Enter. Press Enter again when asked, and again when asked after passing ambient level check. (If you "fail ambient" it means that the Fusion ARCS thinks your room is too noisy, so look for appliances or other things making noise and quiet them.)

Note: If the Fusion ARCS fails to run, ensure that your microphone is plugged in to the correct input (the Cal jack on the front of the Fusion 8100).

The Fusion ARCS will now play a series of test tones through each of your speakers in turn. This will take several minutes; do not interrupt the sequence. If you don't have a full seven speakers plus a subwoofer, the Fusion ARCS will still take several seconds to "test" each of the ones that aren't there (to verify that they really aren't there); don't worry, the Fusion ARCS won't get stuck. After the first series of test tones are done, the Fusion ARCS will present you with a screen summarizing what it has found out so far (the presence, distance, and phase of each of your speakers) and wait for you to press Enter (it will eventually continue by itself if you do not).

Note: The Fusion Advanced Room Correction System is very sophisticated, but no automated system is totally foolproof. Unusual room acoustics, reflections, or unusual speakers can cause it to get incorrect results. If the Fusion ARCS says that the phase of a particular speaker is reversed, it is a good idea to double check your wiring, and the phase of your power amp and speaker. If, however, you find that the Fusion ARCS is mistaken, you can safely ignore its findings. If the Fusion ARCS says your subwoofer is out of phase, look for a phase reversal switch on your sub (many have one) and try it the other way. If your sub has a variable phase control, setting it to "180" is the same as reversing the phase. Moving a subwoofer to a different position in the room may also result in a reversed acoustic phase. If your sub is definitely phased correctly, or you have no way to reverse it, then just ignore that as well. If you change any wiring or speaker positions at this point, please cancel out of the Fusion ARCS and restart it from the beginning.

Notes (about setting subwoofers):

Since the Fusion Advanced Room Correction is controlling the bass management for your subwoofer, it is usually optimum to set your sub itself to "flat". If your subwoofer has a phase setting, you should set it to "0 degrees" or "normal" (and not "inverted"). If your sub has a built-in crossover that cannot be disabled, then set it to the highest allowed crossover point. If your sub has a level control, setting it to a center position, or "0 dB", is a good place to start. If your subwoofer has special features for eliminating room nodes, or if you are using bass traps or other advanced room correction devices, these adjustments should usually be made BEFORE running the Fusion ARCS for best results.

Once you have finished viewing the information presented by the Fusion ARCS, press Enter to continue. The Fusion ARCS will now play *another* series of test tones through each speaker. These tones are used to make more precise measurements for each speaker (which will be used to generate the calibration settings). After this series of test tones are done, the Fusion ARCS will present you with another screen of information.

This time you will be prompted to SAVE the information by pressing Enter.

The fourth, and final, step to running the Fusion ARCS is to activate the calibration settings that Fusion ARCS has created. On the current Menu screen, you can see the equalization settings that are currently applied by the Fusion 8100. The options include Auto EQ, Manual EQ 1, Manual EQ 2, Manual EQ 3, and Flat. By moving the highlight to each choice and pressing Enter, you change the current setting to that choice (and may hear what it sounds like). The highlighted option is the one that is currently selected. (The Auto EQ settings will be highlighted and selected by default.)

You will be able to go back later and change your choice, and to manually adjust the settings made by the Fusion Advanced Room Correction System if you prefer. You may also create up to three full sets of custom manual EQ setting and choose between them. To make the calibration curve generated by your new Fusion ARCS active, and apply it to your inputs, you must leave Auto EQ selected as the active EQ choice.

Note: Moving the selector bar to an EQ choice that isn't highlighted and pressing Enter selects that choice. At this point (if you have an active input which is subject to EQ) you will be able to preview what that choice sounds like. Moving the selector bar to an EQ choice that is already highlighted, and pressing Enter, takes you into a sub-menu where you can make detailed adjustments to the selected EQ configuration. (If you get into this screen by mistake, and want to get out without changing anything, you can do so by pressing Enter or Return.)

Note: If you have Direct Mode selected, or are using the 7.1 Channel Audio direct input, you will NOT be able to preview the EQ settings (because EQ is not applied in Direct mode). It is therefore a good idea to make sure that you are listening to an input and mode in which EQ is applied if you want to preview your settings. (If you haven't done any advanced configuration, HDMI 1 or HDMI 2 will probably work well for this.)

Note: If you run the Fusion Advanced Room Correction System multiple times, you will get similar results (but probably not identical). You will not get more accurate results by running it repeatedly (it does not save or average results from multiple runs). If you aren't entirely satisfied with the results, try moving the microphone to a slightly different position, or simply adjust the results manually to fit your tastes.

The Fusion Advanced Room Correction System™: How it works.

For the technically inclined, here is a brief explanation of how the Fusion Advanced Room Correction System works:

The first set of tones you hear (the ones that get progressively louder) are used to set an appropriate level at which to run the test.

The next set of tones are used to determine the individual level, phase, and distance of each speaker. This is done three times, and the results averaged, to minimize errors.

The results are then displayed.

The next set of tones are used to determine the optimum EQ settings. First, a loud set of tones is run, and the highest response peaks are reduced. The subsequent tests, which may be run anywhere from two to five times depending on how much adjustment of the initial rough curve is necessary, are basically repeats of the initial run. For each run, the result is averaged and compared to the reference (flat) curve, and each time this is done, the response peaks are again reduced, bringing the final result closer to the reference curve each time. Once the curve is as close as possible to the reference curve, then the final offset and level calibration measurements are performed.

The final sequence starts off with a loud burst of unequalized test signal, followed by a quieter burst of the test signal with the calculated EQ applied. The third burst consists of the difference between these two signals, and is used to detect any unaddressed room modes (nulls), which are then the subject of further adjustments. The final loud burst is the equalized and adjusted test signal, and is used to set the final, precisely calibrated, level trims for each channel.

The final results are then displayed, and you are prompted to save them.

Note: The results displayed by the Fusion Advanced Room Correction System are provided to give you general insight into the areas where corrections have been implemented, and the frequency bands and ranges which are affected by those corrections, and should not be interpreted to literally represent the correction curve itself. The details of the full calibration process, and the resulting correction curves, are far more complex.

The values provided are actually representative of the general offset values used to apply the corrections, and so adjusting them will produce a corresponding change in the correction curve (so you can, for example, increase the boost or cut in a particular band by adjusting the corresponding value in the Fusion Advanced Room Correction System configuration), but they should not be interpreted as representing the entirety of the correction that is applied, and CANNOT be copied into a Manual EQ configuration memory to produce a Manual EQ setting similar to the Auto EQ results. Setting all values in the Auto EQ memory bank to their flat values also will NOT result in a flat response curve.

Setup / EQ Submenus (Auto / Manual 1 / Manual 2 / Manual 3)

Input	Mode	Parameter	Zone	Setup
◀ Channel : Front Left ▶				
Fc Gain Q				
Band 1: 27.28Hz				0 dB 2
Band 2: 50.74Hz				0 dB 2
Band 3: 96.97Hz				0 dB 2
Band 4: 180.36Hz				0 dB 2
Band 5: 335.49Hz				0 dB 2
Band 6: 641.1Hz				0 dB 2
				▼
Band 7: 1.19KHz				0 dB 2
Band 8: 2.21KHz				0 dB 2
Band 9: 4.12KHz				0 dB 2
Band 10: 7.88KHz				0 dB 2
Band 11:14.66KHz				0 dB 2
Reset				

The Setup / EQ Submenus are used to manually configure the parametric equalizers in the Fusion 8100. The Fusion 8100 offers three separate “EQ banks” - named Manual 1, Manual 2, and Manual 3. For each of the three Manual EQ banks, you can configure separate EQ settings for each individual channel (speaker). The main channels each provide 11 bands of parametric equalization, and the subwoofer channels each provide 3 bands.

The screens above show the EQ settings available for one channel (Front Left) in one of the Manual EQ banks (Manual EQ 1). Use the Left and Right navigation buttons to navigate between screens (to show the EQ screen for another channel in the same EQ bank), use the Up and Down navigation buttons to move between individual EQ frequency bands for that channel, and use the Left and Right navigation buttons to move between the Center Frequency (Fc), Gain, and Q settings for that band.

With an old style “graphic equalizer”, you were given ten (usually) separate frequency controls, each of which worked like a tone control (you could turn that band either up or down in level). A parametric equalizer is infinitely more flexible. For each channel in each EQ bank you are given eleven control bands. For each control band, you may choose the center frequency (Fc), how narrow or wide a range of frequencies is affected (Q), and then finally the level for that band.

For example, to boost a wide range of frequencies in the lower voice range, you might set one band to a Center Frequency of 600 Hz, and a Q of 0.5 (higher Q numbers mean narrower bands; lower Q numbers mean wider bands). At that point you could use the Gain slider for that band to turn those frequencies up. To reduce a sharp resonance around 33 Hz, you might set another band to a Center Frequency of 33 Hz, and a Q of 7, and then set the Gain slider for that band to -6 dB.

Each frequency band can be set over the full range of audio frequencies, the Q for each can be set between 0.25 (very gradual/wide) and 24 (very sharp/narrow), and the gain of each band can be set anywhere between +3 dB and - 15 dB.

Note: The Auto EQ bank shows the EQ settings automatically entered by the Fusion Automatic Room Correction system. However, Fusion Advanced Room Correction makes other changes and settings that are NOT visible on this screen. While you may raise or lower the Gain settings of specific bands on this screen to alter the automatic settings, setting all bands to flat on this screen will NOT result in a flat response curve, and copying the settings on this screen into a Manual EQ screen will NOT produce an equivalent response curve in that Manual EQ bank.

Setup / Option Submenu

Input	Mode	Parameter	Zone	Setup
Input Config		OSD Depth		09
Playback		OSD Pop Up	All Operational	
Speaker Setup		HDMI CEC Control		On
Auto Room/EQ		HDMI Audio Out		Amplifier
Option		Standby Video		Off
Load Default		CEC Auto Source		Off
Version		CEC PWR Control		Off

The Setup / Options Submenu is used to configure the CEC control options, OSD display options, and Video on Standby feature on the Fusion 8100.

The OSD Depth setting configures the opacity for the Popup OSD menu.

The OSD Pop Up setting configures whether the main OSD Popup Menu is active or not, and whether audio information is displayed whenever the type of audio signal being received changes.

HDMI Audio Output configures whether the audio output of the Fusion 8100 is active (set this to Amplifier if you want the Fusion 8100 to handle your audio).

Standby Video enables the Video on Standby function, which allows the Fusion 8100 to continue to pass video and audio to your monitor even when it is in Standby mode.

The Fusion 8100 also offers several different levels of CEC control - which helps you to configure the optimum amount of interaction between the Fusion 8100 and other CEC-enabled components. The functions available with CEC control will depend on both the Fusion 8100 and your source components and monitor, and you may be required to enable or configure CEC settings on your source components.

Set HDMI CEC Control On to enable the CEC buttons on the remote control to control your DVD or Blu-Ray player.

Set CEC Auto Source On to enable CEC commands to be passed between the chosen input device and the Fusion 8100 (the Fusion 8100 will automatically come on when you turn your source component on, and your source component will automatically come on when it is selected on the Fusion 8100).

CEC PWR Control will enable your Fusion 8100 and other components to switch each other on and off (so, for example, your TV will come on when you turn on the Fusion 8100).

Setup / Load Default Submenu

Input	Mode	Parameter	Zone	Setup
Input Config				
Playback				
Speaker Setup				
Auto Room/EQ				
Option				
Load Default				
Version				

The Setup / Load Default Submenu is used to return the Fusion 8100 to factory default settings (and is also used to clear the Fusion 8100's data and configuration buffers after a firmware update).

Selecting Load Default and confirming the action will delete ALL user configuration settings from the Fusion 8100 and return it to the configuration it had when received from the factory.

Note: Selecting Load Default from THIS SCREEN will reset ALL settings to factory defaults (the Load Defaults option on other screens resets ONLY the parameters for that screen).

Setup / Version Submenu

Input	Mode	Parameter	Zone	Setup
Input Config		Main CPU:		V1.52.02.51
Playback		Bluetooth Module		V1.000E
Speaker Setup		MAC:		00175348A63B
Auto Room/EQ		TV:HDMI		VX2433wm
Option				
Load Default				
Version				

The Setup / Version Submenu displays the versions of the various firmware modules in the Fusion 8100.

Example Input Configuration

The following is an example of how you might choose to configure your Fusion 8100. In the example, we will be configuring a typical 7.1 surround system, with seven speakers and a powered sub, and a Blu-Ray player and Cable Box as the video and audio sources. The Cable Box is connected to HDMI 1 input, and the Blu-Ray player is connected to the HDMI 2 input. Both input devices, and our monitor, support HD.

Electrical Connections

- Connect the Cable Box to the HDMI 1 Input (using an HDMI cable).
- Connect the Blu-Ray Player to the HDMI 2 Input (using an HDMI cable).
- Connect the Monitor (TV) to the HDMI Output (using an HDMI cable).
- Connect the amplifier outputs on the Fusion 8100 to your seven surround-sound speakers.
- Ensure that the Back Channel switch on the rear of the Fusion 8100 is IN.
- Connect the subwoofer output to your powered subwoofer.

Since the Fusion 8100 will be doing the bass management for all of our speakers, we have set the crossover on our powered subwoofer to “Flat”. We have initially set the level on our subwoofer to “0 db”.

Menu Settings

Note: In this example, we will be leaving a lot of settings at their default values, and will not be entering several menu screens at all. Obviously, this is an example, and your system may require different settings.

The only configuration that will be required to start enjoying your Fusion 8100 at this point is to run the Fusion Advanced Room Equalization System (refer to Page 38 for details).

(You may even skip this step if you don't want to take the time right now, or are still finalizing your room setup. If so, then simply select HDMI 1 for Cable or HDMI 2 for your Blu-Ray player.)

Connectivity

- 4 – HDMI 1.4 inputs with 3D and CEC support.
- 1 – HDMI 1.4 output with ARC support.
- 4 – Line inputs (unbalanced, stereo).
- 1 – 7.1 channel input (7 channels plus sub, unbalanced).
- 1 – 7.1 channel preamp output (7 channels plus sub, unbalanced).
- 1 – Balanced subwoofer output.
- 1 – Integrated Bluetooth receiver.
- 2 – zone audio outputs (unbalanced, stereo).
- 1 – audio out (mix out, unbalanced, stereo).
- 4 – digital audio inputs (2 - optical Toslink; 2 - coax).
- 1 – USB input for SW upgrade only.
- 2 – Antenna inputs, AM and FM.
- 2 – Trigger outputs.
- 1 – IR remote input.
- 1 – IR remote output.
- 1 – RS-232 serial control input.
- 7 – Speaker outputs (4 ohms / 8 ohms) gold plated 5-way binding posts.
- 1 – Remote control with CEC control panel.

Care and Maintenance

Periodic Maintenance

Your Fusion 8100 requires no periodic maintenance or calibration.

Cleaning your Fusion 8100

- If necessary, the Fusion 8100 should be cleaned gently with a soft rag.
- If something sticky gets on the front panel or case of the Fusion 8100, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT spray water or cleaning solution directly onto the Fusion 8100 or into the vents.

- If something sticky gets on the remote control, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT submerge the remote control in liquid or spray water or cleaning solution directly onto it.

Troubleshooting

Problem: No power; Standby LED on the front panel of the Fusion 8100 is not lit.

- Verify that your power source is operating correctly.
- Verify that the Power switch on the rear panel of the Fusion 8100 is turned On.

Problem: No video.

- Verify that your source component and TV or monitor work (connect them together directly).
- Check your HDMI cables and connectors.
- Verify that you have the correct Input selected on the Fusion 8100.

Problem: No audio with a video source.

- Verify that you have configured the audio source for that input to be the same HDMI input as the video source.
- If you are using a different audio source (such as a different output from a Blu-Ray player), verify that the audio source you have configured is (still) active.
- Try re-selecting the Input.
- Make sure the Fusion 8100 isn't muted or turned all the way down.
- Make sure you don't have headphones plugged in (headphones will mute the main output).
- Check your interconnects, speaker cables, and speakers.

Problem: No audio with an audio-only source.

- Make sure the Fusion 8100 isn't muted or turned all the way down.
- Make sure you don't have headphones plugged in (headphones will mute the main output).
- Check your interconnects, speaker cables, and speakers.

Problem: The remote control doesn't work (but everything else works as normal).

- Replace the batteries in the remote control.
- If the Fusion 8100's front panel is in direct sunlight, try moving it (sunlight can jam the signal).
- Look for other sources of IR signal noise that may interfere with the signal (plasma TVs, certain CF or halogen lamps, and other sources of IR light).

Problem: No audio output from ONLY the SBL and SBR speakers OR No audio output from ONLY the Zone 2 loudspeakers.

- Make sure the Back Channel switch is in the correct position.

If none of these simple suggestions eliminates your problem, please contact Emotiva Technical Support, at 1-877-366-8324, where a real live person will be happy to get you up and running.

Emotiva Audio Corporation Limited Warranty

What does this warranty cover?

Emotiva Audio Corporation ("Warrantor") warrants its products against defects in materials and workmanship.

How long does this coverage last?

This warranty commences on the date of retail purchase by the original retail purchaser and runs for a period of five years thereafter, with the exception of products in the Fusion Series, which are warranted for a period of three years from the date of retail purchase by the original retail purchaser. This warranty is transferable to any person that owns the warranted product during the Term. Warrantor warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in this paragraph is hereinafter referred to as the "Term".

TO THE FULLEST EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES RELATED TO THE ORIGINAL PRODUCT AND ANY REPLACEMENT PRODUCT OR PARTS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY LIMITED TO THE TERM OF THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

A claim under this warranty must be made by you within the Term. A claim shall not be valid (and Warrantor has no obligation related to the claim) if it is not made within the Term and if it is not made in strict compliance with the requirements of the "How do you get service?" section.

What will Warrantor do?

Warrantor will, at its option, either: (i) repair the product, or (ii) replace the product with a new consumer product which is identical or reasonably equivalent (in Warrantor's sole discretion) to the product. In the event Warrantor is unable to provide replacement and repair is (in Warrantor's sole discretion) not commercially practicable or cannot (in Warrantor's sole discretion) be timely made, then: (i) if the claim was submitted during the first 365 days of the Term, Warrantor shall refund to you the purchase price that you paid for the product; and (ii) if the claim was submitted after the first 365 days of the Term, Warrantor shall issue you a credit equal to the purchase price that you paid for the product. The credit can only be used for the purchase of merchandise and cannot be used for freight / shipping.

When a product or part is repaired or replaced, any replacement item becomes your property and the replaced item becomes Warrantor's property. When a refund or credit is given, the product for which the refund or credit is provided must be returned to Warrantor and becomes Warrantor's property.

What is not covered by this warranty?

This warranty does not apply: (i) to damage caused by use with products not manufactured by Warrantor, where the non-Warrantor product is the cause of the damage; (ii) to damage caused by service or maintenance performed by anyone who is not a representative of Warrantor; (iii) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (iv) to a product or part that has been modified after its retail purchase, where the modification caused or contributed to the damage; (v) to consumable parts, such as batteries; or (vi) if any Warrantor serial number has been removed or defaced on the product. WARRANTOR SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATED TO ANY DEFECTS IN OR DAMAGES TO ITS PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How do you get service?

In order to make a claim under the warranty, you must:

1. Call or email a customer service representative at 1-877-EMO-TECH (1-877-366-8324) or support@emotiva.com. Provide a description of your problem and the serial number of the product for which the warranty claim is being made.
2. You will be provided with a returned material authorization number ("RMA").
3. Ship the product to the following address, with the RMA written in large, bold numbers on the outside of the box, and with the letters "RMA" written before the number. Parcels arriving without a RMA number on the outside of the box will be refused. The customer pays for the shipping to Warrantor and Warrantor pays for the shipping back to the customer, as applicable.

Emotiva Audio Corporation
Attn: Repair Department
135 Southeast Parkway Court
Franklin, TN 37064

How does state law apply?

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.



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Notes

[illegible]

